DEVICE FOR SELECTIVELY REMOVING CELLS FROM A BIOLOGICAL SAMPLE

SUMMARY

The NICHD seeks licensees for a new a device that automatically identifies cells by reacting with a light sensitive immunoreagent(s) (e.g., antibodies labeled with a light sensitive tag).

REFERENCE NUMBER

E-045-2014

PRODUCT TYPE

- Diagnostics

KEYWORDS

- microdissection
- high throughput analysis
- histological analysis

COLLABORATION OPPORTUNITY

This invention is available for licensing.

CONTACT

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DESCRIPTION OF TECHNOLOGY

A variety of techniques have been used to isolate specific cells or cell populations from a histological sample under direct microscopic visualization. Techniques that involve manual or micro-manipulation devices to isolate individual cells based upon visible characteristics and/or immunological staining are labor intensive and can require an extended amount of time.

The National Institute for Childhood Health and Diseases (NICHD) has invented a device and a method to automatically identify cells reacting with light sensitive immunoreagent (s) (e.g., antibodies labeled with a light sensitive tag). The device may be used to selectively transfer the cells to a thermoplastic polymer film by exposing them to a flashtube that selectively activates the immunoreagent. Activation of the immunoreagent bound to the cells causes the cells to selectively adhere to thermoplastic polymer film. Individual cells, populations of cells, or specific regions of the tissue can be isolated using the device. Populations of cells can be sequentially isolated by employing immunoreagents that are activated

by different wavelengths of light. The device can also be used to isolate cellular components (e.g. cell nuclei). The device can also be used for high throughput analysis of the samples.

A related technology with NIH Reference Number E-046-2014 "Improvements and new inventor on combined flash lamp and vacuum slide/film apposition device for microdissection of stained targets within a typical tissue section on a standard glass slide" is also avaialble for licensing.

License applications can be found at http://www.ott.nih.gov or by following the contact information shown below.

POTENTIAL COMMERCIAL APPLICATIONS

- Microdissection of specific cells or cell populations from a histological sample.
- High throughput analysis of biological samples.

COMPETITIVE ADVANTAGES

- Isolation of cells with specific characteristics can be achieved more quickly than using manual microdissection.
- Automated high throughput analysis of histopathological samples.

INVENTOR(S)

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DEVELOPMENT STAGE

- Prototype

PATENT STATUS

- **Not Patented**

RELATED TECHNOLOGIES

- E-046-2014
- E-113-2003

THERAPEUTIC AREA

- Cancer/Neoplasm
- Hormonal Systems, Endocrine, and Metabolic Diseases
- Infectious Diseases